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REPORT NO. 4

Cotton Fiber and Processing Test Results

CROP of

1977



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 November 4, 1977

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

The average fiber length of short staple cottons tested from the Southwest through October 28 is about the same as a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Samples tested are more uniform, finer and considerably stronger than a year ago. Shirley Analyzer nonlint content is somewhat higher, but picker and card waste is lower. Yarns spun from these samples are considerably stronger. Yarn appearance grades are lower. The average spinning potential number is higher.

Average test results for all medium staple samples show fibers to be longer and more uniform than a year ago at this time. Fibers are coarser and stronger at zero gage fiber strength. Shirley Analyzer nonlint content is higher than last season. Yarns spun from these samples show slightly weaker yarns with lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast are shorter and weaker than a year ago at this time. Shirley Analyzer nonlint content is lower as is picker and card waste. Yarn quality shows weaker skein strength and lower appearance grades. Yarn imperfections are fewer than last season. The spinning potential yarn number is lower.

South Central medium staple samples are longer, coarser and weaker than a year ago. Both Shirley Analyzer nonlint content and picker and card waste are higher than last season. Yarns spun from these samples are weaker with lower appearance grades. The imperfection count is higher. The average spinning potential yarn number is higher.

Medium staple samples from the Southwest are longer, more uniform and stronger at zero gage fiber strength tests than a year ago. Picker and card waste is lower. Yarns spun from these samples show lower appearance grades. Imperfections are fewer.

Medium staple samples tested from the West to date have slightly shorter, more uniform and coarser fibers than a year ago. Shirley Analyzer nonlint content is lower. Yarns spun from these samples are weaker than a year earlier. Yarn imperfections are higher. Spinning potential yarn number is lower.

Long staple samples from the Southeast are shorter and less uniform than a year ago. Samples tested are coarser and weaker. Shirley Analyzer nonlint content is higher as is picker and card waste. Yarn strength is lower for carded yarns. Yarn appearance grades are higher than a year ago at this date. Imperfections are fewer. The average spinning potential yarn number is considerably lower than last season on the limited number of samples tested this season.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS, Cotton Division, June 1977.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States
through October 28, 1977 1/

Staple group Area, and Crop year	Lots tested	Fiber test results							Processing test results						
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.			
		2.5% span	50/2.5 unif.		Pct.	Rdg.			Mpsi	G/tex	Pct.		Lbs.	Index	
				Inches			No.	22s				Carded			Yarn
Short Staple:															
Southwest															
1976	7	.98	44	4.4	85	20	2.9	6.9	84	111	13	36			
1977	29	.98	46	4.2	90	22	3.3	5.6	99	106	13	45			
Medium Staple:															
Southeast															
1976	4	1.10	46	4.8	88	24	3.6	6.7	112	105	23	60			
1977	14	1.07	46	4.8	87	23	3.1	6.0	99	98	20	50			
South Central															
1976	15	1.09	45	4.3	89	24	2.9	5.7	112	101	18	55			
1977	71	1.11	45	4.6	86	23	3.6	6.1	106	97	22	58			
Southwest															
1976	23	1.07	45	4.2	81	22	3.0	6.1	105	99	20	58			
1977	36	1.09	46	4.3	85	22	3.2	5.6	105	93	17	57			
West															
1976	2	1.14	45	4.1	90	28	2.8	5.2	129	90	20	76			
1977	5	1.13	47	4.3	91	26	2.2	5.4	120	88	26	70			
U.S. Average															
1976	44	1.08	45	4.3	85	23	3.0	5.9	109	100	19	58			
1977	126	1.10	46	4.5	86	23	3.4	5.9	106	96	21	57			
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3			

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through October 28, 1977

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results					Processing Test Results																
		Length		Unif	Mike	Strength Zero 1/8" gage	SA Non- lint	P&C Waste	Comber Waste	Yarn Quality													
		Span	In.							Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Lbs. carded	Lbs. combed	Indx carded	Indx combed	Imprfctns card	No. comb		
No.		In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs. carded	Lbs. combed	Indx carded	Indx combed	No. card	No. comb	SPY	No.						
22s Carded & Combed Yarn																							
Long Staple: Southeast	2	1.18	47	4.4	91	26	2.3	5.8	14.4		126	146	105	125	21	9	76						
	3	1.12	46	4.9	85	23	3.2	7.1	*		104	*	110	*	15	*	58						
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	1	1.15	45	4.6	89	24	3.9	6.7	*		109	*	100	*	26	*	64						
South Central	1976																						
	1977																						
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	0.5	4(22s)	5	5	2	2	2	3						
											4(22s)	2(50s)											

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number					Fiber Test Results					Processing Test Results - Carded Yarns														
No	Grade	Name & Code	Stple 32s	2.5% span	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial
					Unif	Pct		Rdg	Mpsi		G/tex	Pct	Pct	No		No	Gra	Yel	8s or 74 tx	22sor 27 tx	Lbs	Pct	8s or 74 tx	
SOUTHWEST AREA																								
CENTRAL TEXAS																								
BARCOWELL																								
3	MID	LT SP	32	31	0.98	46	4.4	92	22	5.8	2.8	2	4	5.6	98 PERCENT	289	96	6.9	5.9	130	110	19	10	45
ITASCA																								
3	MID	LT SP	32	31	1.00	45	4.4	91	24	6.0	3.4	2	4	6.3	100 PERCENT	285	101	7.0	6.0	130	110	28	13	50
PALMER																								
3	SLM	LT SP	42	31	0.98	46	4.7	91	21	5.6	4.1	3	4	6.8	99 PERCENT	286	94	6.6	5.4	130	110	19	11	44
NORTHWEST TEXAS																								
BURKBURNETT																								
1	MID		31	32	1.03	44	4.5	87	24	6.6	2.6	1	4	5.7	97 PERCENT	308	105	7.6	6.3	120	100	28	21	53
GOREE																								
1	MIC		31	32	1.00	44	3.7	87	21	5.9	2.8	1	4	4.9	80 PERCENT	301	105	7.3	6.4	120	90	23	14	49
LAMESA																								
1	MIC	LT SP	32	30	0.94	46	3.6	87	21	6.2	4.5	1	4	6.7	75 PERCENT	286	96	7.4	5.7	120	110	29	22	38
LOCKNEY																								
1	MIC		31	32	1.02	48	4.7	89	24	5.9	2.9	1	4	6.1	80 PERCENT	322	110	7.1	6.2	130	110	18	9	54
LOOP																								
1	MIC		31	31	0.89	46	4.9	92	22	5.6	2.5	1	4	5.5	75 PERCENT	315	105	7.7	6.3	130	110	18	9	48
RULE																								
1	MIC		31	32	1.04	45	4.6	86	22	6.4	2.7	1	4	5.1	100 PERCENT	310	107	7.4	6.5	130	120	17	8	52
OKLAHOMA																								
GRANDFIELD																								
1	MIC	LT SP	32	32	0.99	48	4.9	83	23	6.8	3.3	1	4	6.2	90 PERCENT	298	103	7.6	6.5	130	110	18	11	51

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns													
Sample Number				Digital Fibrograph		Fiber Strength		Elon- gat'n		S.A. Non- Lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial			
Grade		Stple		2.5% span		Mike		Zero 1/8" Gage		Pct 1/8" Gage		Gra		Yel		22s or 27 tx		50s or 12 tx		22s or 27 tx		50s or 12 tx		22s or 50s or 12 tx			
Name & Code		32s		In		Pct		Rdg		Mpsi		G/tex		Pct		No		No		Pct		No		No		No	
SOUTHEAST				AREA																							
ALABAMA																											
3 LM LT SP				52	33	1.03	46	5.0	83	22	6.3	2.8	5	3	7.0	79	24	1	5.0	4.2	110	70	20	15	25	25	
BELLE MINA																											
CENTRE																											
2 SLM LT SP				42	34	1.05	46	4.6	85	22	5.8	2.8	4	4	5.7	96	32	5.4	4.0	110	80	13	13	53	53		
HILLSBORO																											
3 SLM LT SP				42	33	1.06	44	4.6	84	22	6.2	2.5	5	4	5.6	87	26	5.8	3.9	110	70	17	13	43	43		
PRATTVILLE																											
1 SLM LT SP				42	35	1.13	46	4.7	89	24	5.1	3.3	3	3	5.4	113	39	5.7	4.4	90	70	23	17	71	71		
WILSONVILLE																											
1 SLM LT SP				42	34	1.10	44	4.5	80	21	6.7	2.6	2	3	6.0	96	32	6.3	4.5	90	70	16	15	54	54		
SOUTH CAROLINA																											
CHESTER																											
1 SLM SP				43	35	1.11	46	4.7	88	24	5.7	2.9	5	4	6.8	108	36	5.7	4.3	100	80	16	12	62	62		
MAYESVILLE																											
1 MID				31	35	1.12	46	5.3	88	24	5.4	2.3	2	4	6.3	96	30	5.3	3.8	80	70	22	17	45	45		
SOUTH CENTRAL				AREA																							
ARKANSAS																											
ALTHEIMER																											
2 SLM				41	36	1.16	45	4.5	84	23	6.7	2.9	2	2	6.2	110	36	6.8	4.9	90	70	19	15	62	62		
DRIVER																											
3 LM				51	34	1.10	44	4.6	85	22	6.0	4.4	4	3	7.1	97	31	5.6	3.9	90	70	26	17	51	51		
DUMAS																											
2 SLM				41	35	1.11	47	4.8	84	22	5.9	2.6	2	3	6.1	102	33	5.9	4.4	90	80	14	9	55	55		
HUGHES																											
2 SLM				41	35	1.11	46	4.7	84	22	6.0	2.6	3	3	5.9	102	33	5.8	4.3	100	80	17	14	55	55		
LEACHVILLE																											
2 SLM LT SP				42	35	1.13	47	5.0	82	22	6.5	2.8	4	4	7.5	99	31	6.0	4.3	90	70	26	21	54	54		

1 End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade	Stple	32s	In span	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent-ial	
					2.5% span	Unif.		Zero Gage	1/8" Gage		Pct	Pct	Gra	Yel		Pct	Pct	22s or 27 tx	50s or 12 tx	Lbs	Lbs	22s or 27 tx	50s or 12 tx		No
SOUTH CENTRAL AREA--(Continued)																									
ARKANSAS--(Continued)																									
VICTORIA																									
3	LM	51	35	1.12	44	4.8	87	22	5.1	3.6	4	2	6.8			100 PERCENT	95	29	5.3	3.3	100	70	24	16	54
WYNNE																									
2	SLM LT SP	42	34	1.10	45	3.5	84	24	6.9	3.8	3	3	7.0			100 PERCENT	112	38	6.5	4.6	90	70	24	21	61
LOUISIANA																									
ALEXANDRIA																									
1	SLM	41	34	1.06	46	4.9	79	20	6.2	2.0	2	3	6.1			75 PERCENT	85	26	5.5	4.2	100	80	19	14	44
LAKE PROVIDENCE																									
1	SLM	41	35	1.14	46	4.8	88	23	6.5	3.5	1	2	5.8			100 PERCENT	112	37	6.5	4.8	110	90	16	11	62
MISSISSIPPI																									
CLARKSCALE																									
2	LM	51	36	1.12	46	4.6	85	23	6.1	3.0	3	2	6.5			100 PERCENT	106	34	6.4	4.5	90	70	23	22	55
COMO																									
2	SLM	41	34	1.10	45	4.7	83	22	6.3	3.3	2	3	5.6			98 PERCENT	106	35	6.3	4.9	110	80	16	12	59
EDWARDS																									
1	MID	31	34	1.08	45	5.0	80	21	6.1	2.8	1	3	6.1			98 PERCENT	93	28	5.8	3.8	100	90	12	11	49
GLENDORA																									
2	LM	51	36	1.15	47	5.0	88	24	5.1	3.5	3	2	7.1			100 PERCENT	106	35	5.7	4.3	100	70	20	14	58
GREENVILLE																									
2	SLM	41	36	1.16	45	3.9	84	24	7.0	4.4	2	2	5.3			100 PERCENT	117	41	6.7	5.4	90	70	21	18	71
GREENVILLE																									
1	LM	51	36	1.14	47	4.8	87	23	5.5	9.8	3	2	9.8			100 PERCENT	109	37	6.0	4.5	100	70	30	25	62
GUNNISON																									
3	SLM	41	35	1.12	45	4.7	81	23	7.2	2.9	2	2	4.8			100 PERCENT	109	37	6.7	5.0	90	70	20	14	59
HOLLANDALE																									
2	SLM	41	36	1.17	46	4.2	91	23	6.8	2.5	2	1	6.0			100 PERCENT	113	39	6.7	5.1	100	70	16	15	70
INDIANCLAY																									
3	LM	51	36	1.11	45	4.4	86	22	5.9	5.2	4	2	7.6			100 PERCENT	103	33	5.9	4.2	100	80	20	15	58

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade Name & Code	Stple	32s In span	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8" Gage	S.A. Non-Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potential		
				2.5% span	Unif.		Zero Gage	1/8" Gage		Pct	Pct	Gra	Yel		Pct	Pct	Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx		22s or 27 tx	50s or 12 tx
SOUTH CENTRAL AREA--(Continued)																									
MISSISSIPPI--(Continued)																									
INDIANOLA																									
3	LM	51	35	1.13	47	4.8	87	23	5.0	4.5	3	2	6.9			100 PERCENT	99	30	5.3	3.5	90	70	22	15	48
MORGAN CITY																									
2	SLM	41	35	1.10	46	5.0	83	20	5.9	4.4	2	3	6.5			100 PERCENT	101	32	6.2	4.3	100	70	24	16	53
TRIBBETT																									
2	SLM	41	35	1.12	47	4.9	84	22	5.9	3.5	2	3	6.4			100 PERCENT	107	36	6.0	4.5	100	90	15	9	59
WATER VALLEY																									
2	SLM	41	34	1.10	44	4.7	80	23	6.4	3.4	2	3	6.4			75 PERCENT	97	33	6.4	4.4	100	80	17	12	52
TENNESSEE																									
BRADEN																									
2	SLM LT SP	42	34	1.09	47	4.7	81	22	7.0	3.0	4	4	5.4			70 PERCENT	97	30	5.9	3.9	110	80	15	14	52
RIDGELY																									
2	SLM	41	35	1.10	45	4.8	80	22	6.4	2.7	3	3	6.1			90 PERCENT	91	27	5.7	4.0	100	70	22	18	48
SOUTHWEST AREA																									
CENTRAL TEXAS																									
CROCKETT																									
2	SLM	41	34	1.05	46	4.8	95	21	5.4	3.0	2	3	6.2			75 PERCENT	98	30 1/2	5.5	4.3	100	80	10	7	48
3	SLM	41	34	1.03	45	4.4	93	21	5.2	2.4	2	3	6.7			75 PERCENT	86	23	4.7	3.8	100	70	16	13	40
NAVASOTA																									
3	SLM	41	35	1.12	46	4.7	82	22	6.8	2.0	1	3	5.4			100 PERCENT	108	37	6.0	4.8	110	70	15	15	65
NORTHWEST TEXAS																									
ACKERLY																									
1	MID	31	31	0.98	46	4.1	98	22	5.4	3.8	1	4	6.1			70 PERCENT	94	21	5.2	3.6	100	90	18	19	25
LUBBOCK																									
1	MID	31	34	1.12	43	4.6	83	23	5.8	4.0	1	4	7.0			100 PERCENT	109	36 2/3	5.9	4.8	90	60	34	23	53
LUBBOCK																									
1	SLM	41	35	1.10	45	4.4	84	22	6.1	4.8	1	3	8.2			100 PERCENT	108	38	6.5	4.8	80	60	26	21	59
1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.																									
2/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.																									

1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.

2/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade	Stple	32s	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- ial			
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx				
				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No			
WEST																									
ARIZONA																									
ROLL																									
1	MID		31	35	1.12	45	4.4	83	22	6.7	2.8	0	3	6.2	103	33	6.0	4.7	90	70	25	17	54		
DELTAPINE 61																									
CALIFORNIA																									
ARVIN																									
1	MID		31	36	1.15	48	4.3	93	28	6.1	2.1	0	3	4.9	130	47	6.2	5.3	90	70	20	15	82		
ACALA SJ-2																									
ARVIN																									
1	MID		31	36	1.15	48	4.1	98	28	5.8	1.8	0	3	4.9	135	48	6.3	5.0	90	60	25	22	80		
ACALA SJ-2																									
BAKERSFIELD																									
1	MID		31	35	1.12	46	3.9	94	28	5.6	1.7	0	3	4.8	131	46	6.2	5.0	80	60	29	24	74		
ACALA SJ-2																									

1/ Cotton stuck to processing rolls.

1/ Cotton stuck to processing rolls.

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade		Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Comber Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potential		
	Name & Code	32s		2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx			
																							In	Pct
SOUTHEAST AREA																								
ALABAMA																								
JACKSONVILLE																								
1	SLM	LT SP	42	34	1.06	47	5.0	83	22	COKER 310	6.2	3.3	4	4	6.8	91	30	5.4	4.5	110	90	15	10	48
														85 PERCENT										
NORTH CAROLINA																								
DUNN																								
1	SLM		41	35	1.13	45	4.8	85	23	COKER 310	5.6	2.8	2	3	6.5	105	35	5.5	4.3	110	90	14	11	59
														90 PERCENT										
SOUTH CAROLINA																								
HARTSVILLE																								
1	LM	PLUS	50	36	1.18	45	4.9	86	24	COKER 310	5.6	3.6	3	3	7.9	115	39	5.3	4.7	110	80	15	9	66
														100 PERCENT										